

Title (en)

Light signalling devices with light emitting diodes

Title (de)

Mit Leuchtdioden bestückte Leuchtsignalvorrichtungen

Title (fr)

Appareils de signalisation lumineux à diodes électroluminescentes

Publication

EP 0853302 A1 19980715 (DE)

Application

EP 97119697 A 19971111

Priority

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- DE 29622402 U 19961224

Abstract (en)

The first figure (1a) gives a longitudinal section and the second figure (1b) a transverse section of a light radiated or signalling device (10) with a housing (11), in the lower part of which are accommodated the electronics (12) and two groups of LEDs (13,14), tightly packing the LED field (15). The first group gives the blue-green light and the second giving the yellow-orange light. The combination of this light radiation results in white light. There are twice as many blue-green diodes as yellow-orange diodes. The second figure (2) gives an example where the ratio of these diodes is 3:1 and the third figure an example where the ratio is 1:1. For homogenising the light there are scattering discs (17,18), with a screen (19) having a central opening to improve the edges of the beam and give a uniform beam.

Abstract (de)

Eine mit Leuchtdioden (13,14) gleicher oder unterschiedlicher Emissionsfarben bestückte Lichtsignalvorrichtung (10) wird beschrieben, bei der zur Erzeugung von weißem Licht entweder weißes Licht emittierende Leuchtdioden oder eine Kombination von Leuchtdioden verwendet werden, die blaugrünes Licht im Wellenlängenbereich zwischen 465 und 498 nm emittieren, mit Leuchtdioden, die gelbes bis oranges Licht im Wellenlängenbereich zwischen 575 und 600 nm emittieren. <IMAGE>

IPC 1-7

G08G 1/095; **G09F 9/33**

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [Y] US 5136483 A 19920804 - SCHOENIGER KARL-HEINZ [DE], et al
- [Y] US 4271408 A 19810602 - TESHIMA TORU, et al
- [A] US 5375043 A 19941220 - TOKUNAGA MAKOTO [JP]
- [A] US 3875456 A 19750401 - KANO TSUYOSHI, et al
- [A] US 5535230 A 19960709 - ABE TADASHI [JP]
- [A] US 4945009 A 19900731 - TAGUCHI KAZUO [JP], et al
- [DA] EP 0713999 A1 19960529 - SIEMENS INTEGRA VERKEHRSTECHNI [CH]

Cited by

DE102004010875B4; EP1286321A1; GB2356694A; GB2356694B; DE20321848U1

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